ERIC Document Resume	See Instruction Sheet	DATE OF RESUME 8/18/65	DATE RECEIVED

A. PUBLICATION DATA

1. ERIC NUMBER	2. ORIGINATOR CONTROL NO(S).	3. IDENTIFICATION NO.	DO NOT WRITE IN SPACE BELOW
ED000579	7330		

4. AUTHOR(S): Young, F. Chandler

5. TITLE OF DOCUMENT ABSTRACTED: Some Scholastic Progress Patterns, An Exploratory Study

6. PUBLICATION TITLE: N.A.

7. EDITOR(S): N.A.

8. PLACE OF ORIGIN
ORG. University of Wisconsin
ST.
CITY, STATE Madison, Wisconsin
TELE. EXT.
INST/LOC CODE

9. PUBLISHER OR SOURCE: University of Wisconsin

10. VOL.	11. PAGES	12. MO./YR.	13. TOTAL PP.
N.A.	N.A.	59	

MICROFILM COPY AVAILABLE YES ☒ NO ☐

COPYRIGHT GRANTED YES ☐ NO ☒

COPYRIGHT RELEASE FILED YES ☐ NO ☐

TYPE OF REPORT
PROPOSAL ☐
IN-PROGRESS ☐
FINAL ☒
FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR: experimental study

16. INDEXING TERMS (6-12)

achievement
experimental studies
retention
students

17. ABSTRACT (MAX. 280 WORDS)

Study in which 259 students were divided into 9 groups according to first semester grade-point average and total score on ACE Psychological Examination. Progress is shown in terms of persistence and achievement. Persistence is indicated by number of consecutive semesters completed; achievement by grade-point average.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION	20. DIVISION OR DEPT.	21. CONTRACT NO. / PROJECT NO.
	22. TOTAL COST OF PROJECT	
	23. DURATION OR PROJECT	• U.S. Department of Health, Education, and Welfare Office of Education

ERIC Form 1

IV-21

SOME SCHOLASTIC PROGRESS PATTERNS

An Exploratory Study

by

F. Chandler Young
University of Wisconsin
Madison, 1959

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education

This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

ED000579

SUMMARY

This is a fairly new approach to the development of predictive indices of college scholastic progress. It is an exploratory study of the four-year progress of a group of 259 former male students who had entered the College of Letters and Science from high school.

These 259 were divided into nine groups according to first semester grade point average and total score on the American Council Psychological Examination. The progress of each of these nine groups is shown in terms of both persistence and achievement. Persistence is indicated by the number of consecutive semesters completed; achievement by grade point average. First the progress of all 259 is considered, then only those who left college before the junior year, and finally those who completed eight consecutive semesters. Included also are some discussions of the validity of commonly used predictive indices.

The principal findings of this study were that (1) scholastic progress patterns of the kind described here can be easily and understandably identified and used effectively in predicting scholastic progress; and (2) that this study should be repeated using large numbers of students from different high schools.

SOME SCHOLASTIC PROGRESS PATTERNS

An Exploratory Study By F. Chandler Young
University of Wisconsin, 1959*

This is an exploratory study. It was undertaken because of a felt need for more valid and more understandable predictive indices for the continuing undergraduate.

The scholastic progress of a small group of former students is described. Progress is considered in terms of both scholastic achievement and persistence, persistence being indicated by the number of consecutive semesters in attendance. These descriptions are designed for use in developing progress expectancies for future students.

The statistical analyses are intended to be simply descriptive of one group of students. Whether or not obtained differences or proportions are chance differences is not the concern of this preliminary study. Probable errors and the statistical significance of differences were not computed.

The text and tables of this paper were prepared for colleagues at the University of Wisconsin. They may have some suggestions regarding a study of similar design with large numbers of students. A small group was studied quite intensively in an exploratory manner. It seemed that the progress descriptions shown here for this small group were the most promising of a number which were considered but not included in this report.

The group used for this study consisted of 259 male graduates of West High School, Madison, Wisconsin, who had entered the College of Letters and Science in the September immediately following high school graduation in June, over a six year period, 1949-1954, and had completed one semester in the College of Letters and Science.

*This paper was mimeographed at the request of the Research Committee, Junior Administrative Council, University of Wisconsin in October, 1959. This paper is not for publication. An article based on this study may be published later.

Nine groups of students were selected from these 259 on the basis of grade point average earned the first semester and total percentile score on the American Council Psychological Examination.

Table I shows the persistence of these nine groups. Columns (1) and (2) show the criteria by which each group was selected. Column (3) shows the number of students in each group. Columns (4), (5), and (6) indicate the per cent of each group completing the freshman and sophomore years and Columns (7) through (10) the persistence through the junior and senior years. Reading Columns (4) through (10) from top to bottom it can be seen that, in general, persistence decreases from Group I progressively through Group IX. Column (6) shows, for example, that 95% of the students in Group I completed the sophomore year whereas only 18% of Group IX did so.

The regularity of persistence patterns is quite evident in Table I. Most of the students who started out well, Groups I, II, and III, persisted through at least eight consecutive semesters; most of those who started out poorly, Groups VII, VIII, and IX, had left by the beginning of the junior year. For the group as a whole, few had left after only one semester. Few had left in the middle of the sophomore year. Those who had entered the junior year stayed through the senior year.

Groups III and VII, Table I, are of special interest. Most of the low ability students who had done well the first semester, Group III, stayed on, whereas most of the high ability students who had started poorly, Group VII, had left before the junior year.

If the persistence patterns shown in Table I were found to be fairly stable from year to year, then these patterns could be used as predictive indices. A student belonging to Group I, for example, would be expected

TABLE I

PERSISTENCE PATTERNS

Nine Groups				Per Cent of Each Group Completing Each Of Seven Consecutive Semesters						
	First Semester GPA	ACE Total	N	Freshman and Sophomore Years			Junior and Senior Years			
Columns	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Consecutive Semesters				2	3	4	5	6	7	8
Groups										
I	3.00-4.00	68-99	39	100	95	95	90	90	87	82
II	3.00-4.00	34-67	20	100	100	100	95	95	90	90
III	3.00-4.00	0-33	5	100	80	80	80	80	80	80
IV	2.00-2.99	68-99	36	97	78	75	67	67	67	67
V	2.00-2.99	34-67	52	97	85	77	58	56	53	53
VI	2.00-2.99	0-33	26	93	85	69	54	42	28	28
VII	0-1.99	68-99	9	89	44	44	22	22	22	22
VIII	0-1.99	34-67	24	83	39	30	21	13	13	13
IX	0-1.99	0-33	48	63	24	18	14	12	12	12
All Groups			259	89	69	64	54	51	50	49

to complete his undergraduate work at Wisconsin, one in Group IX would not be expected to enter the junior year. The probabilities of persistence for students in the intermediate Groups could be assessed in terms of the per cent of members in each group persisting through each semester.

Table II is designed to show achievement rather than persistence patterns. Reading Columns (5) through (11) from top to bottom it can be seen that level of achievement decreases in general from Group I progressively through Group IX. In Column (5), for example, 82% of the students in Group I earned a B average or above and none earned less than a C average the second semester of the freshman year. In Group IX, however, none made a B average or above and 45% made less than a C average the second semester. The proportions of each group which are not shown represent those students who either earned a C average that semester or who had left at the end of the previous semester.

The achievement patterns in Table II are similar to the persistence patterns. Most of the students who had started out well continued to do well. Most of those who had begun poorly continued to do poorly or left. Very few of the students in any of the Groups earned less than a C average during the junior and senior years (Columns (8) through (11)). Once students who have been at the University for two years begin the junior year they are likely to do satisfactory work regardless of either their previous scholastic record or their ability. Low ability students who had started out well, Group III, continued to do well or at least to earn satisfactory grades. Few of the high ability students who had started out poorly, Group VII, ended up doing well.

The progress patterns shown in Table II could be used as predictive indices. A student belonging to Group I, for example, would be expected

TABLE II

ACHIEVEMENT PATTERNS

Per Cent of Each Group At Two Achievement Levels: 3.00-4.00 and 0-1.99

Nine Groups

	First Semester GPA	ACE Total	N	Level of Achievement	Freshman and Sophomore Years			Junior and Senior Years			
Columns:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Consecutive Semesters					2	3	4	5	6	7	8
I	3.00-4.00	68-99	39	3.00-4.00	82	64	74	72	74	56	64
				0-1.99	0	3	3	3	0	5	0
II	3.00-4.00	34-67	20	3.00-4.00	60	50	40	65	50	50	45
				0-1.99	5	5	0	0	5	5	10
III	3.00-4.00	0-33	5	3.00-4.00	80	40	60	40	80	40	40
				0-1.99	0	0	0	0	0	0	0
IV	2.00-2.99	68-99	36	3.00-4.00	5	17	19	22	28	42	31
				0-1.99	28	8	11	0	5	3	0
V	2.00-2.99	34-67	52	3.00-4.00	6	12	10	15	15	13	15
				0-1.99	29	15	23	5	2	2	0
VI	2.00-2.99	0-33	26	3.00-4.00	4	12	4	7	7	7	19
				0-1.99	31	35	19	12	4	4	0
VII	0-1.99	68-99	9	3.00-4.00	22	0	0	11	0	0	0
				0-1.99	45	11	22	0	0	0	0
VIII	0-1.99	34-67	24	3.00-4.00	0	4	4	4	4	0	0
				0-1.99	48	9	9	4	0	0	0
IX	0-1.99	0-33	48	3.00-4.00	0	0	0	0	0	4	0
				0-1.99	45	6	4	0	0	4	0
Total			259	3.00-4.00	22	21	21	24	25	23	23
				0-1.99	27	10	11	3	2	3	1

not only to complete his undergraduate work at Wisconsin but also to continue earning at least a B average in each semester. The Group IX student, on the other hand, would not be expected either to remain long or to improve his scholastic work.

The known scholastic progress of students who have attended the University may be used as a basis for the expected progress of a similarly selected group which is attending the University only if calendar time has no appreciable effect. In order to see the effect of calendar time, the progress of an earlier group of students was compared with that of a later group.

Table III shows three of the nine groups from Table I, divided according to dates of entry. Groups I, V and IX were chosen for this comparison because they were the three largest groups. Rows (1), (2), and (3) of Table III show that there is very little difference in persistence between those in Group I who entered in the 1949-51 period and those who entered during the later period. The same is generally true for Group V, Rows (4), (5), and (6), although there is a marked difference during the senior year. There are wide differences between the earlier and later parts of Group IX even though the leveling off in the junior and senior years is about the same.

Table IV is drawn up in the same way as Table III except on the basis of achievement rather than persistence. The similarities in levels of achievement can be noted by comparing the proportions of students who entered earlier with those who entered later in each of the three groups (I, V, and IX).

Considering Tables III and IV, it can be tentatively concluded that calendar time has little effect. Larger numbers of students, or different

TABLE III

Effect of Calendar Time
On Persistence

Row	Groups	Number	Per Cent of Each Group Continuing In Each Consecutive Semester						
			Freshman and Sophomore Years			Junior and Senior Years			
Consecutive Semester			2	3	4	5	6	7	8
(1)	I-Entering 1949-1951	15	100	93	93	80	80	80	73
(2)	I-Entering 1952-1954	24	100	96	96	92	88	88	83
(3)	I-All (1949-1954)	39	100	95	95	87	85	85	?
(4)	V-Entering 1949-1951	29	93	86	79	52	48	45	45
(5)	V-Entering 1952-1954	23	100	83	74	65	65	65	65
(6)	V-All (1949-1954)	52	96	85	77	58	56	54	54
(7)	IX-Entering 1949-1951	28	71	32	29	21	18	18	18
(8)	IX-Entering 1952-1954	20	45	10	5	5	5	5	5
(9)	IX-All (1949-1954)	48	60	23	19	15	13	13	13

TABLE IV

Effect of Calendar Time
On Achievement

Row	Groups	Number In Each Group	Level Of Achievement (GPA)	Per Cent of Each Group Achieving At Each Level In Seven Consecutive Semesters							
				Freshman and Sophomore Years			Junior and Senior Years				
Consecutive semesters				2	3	4	5	6	7	8	
(1)	I Entering 1949-51	15	3.00-4.00	87	67	73	80	87	60	60	
(2)			0.00-1.99	0	7	7	0	0	0	0	
(3)	I Entering 1952-54	24	3.00-4.00	79	63	75	67	67	54	67	
(4)			0.00-1.99	0	0	0	4	0	8	0	
(5)	I All (Entering 1949-54)	39	3.00-4.00	82	64	74	72	74	56	64	
(6)			0.00-1.99	0	3	3	3	0	5	0	
	V Entering 1949-51	29	3.00-4.00	7	10	10	17	14	14	17	
			0.00-1.99	28	21	31	3	3	3	0	
	V Entering 1951-54	23	3.00-4.00	4	13	9	13	17	13	13	
			0.00-1.99	26	9	9	4	0	0	0	
	V All (Entering 1949-54)	52	3.00-4.00	6	12	10	15	15	13	15	
			0.00-1.99	27	15	21	4	2	2	0	
	IX Entering 1949-51	28	3.00-4.00	0	0	0	0	0	7	0	
			0.00-1.99	50	4	7	0	0	4	0	
	IX Entering 1952-54	20	3.00-4.00	0	0	0	0	0	0	0	
			0.00-1.99	40	0	0	0	0	5	0	
	IX All (Entering 1949-54)	48	3.00-4.00	0	2	0	0	0	4	0	
			0.00-1.99	46	4	4	0	0	4	0	

calendar times might yield different results but these results tend to support the idea that the progress of a group selected in one year will be essentially that of a similar group selected according to the same criteria in a later year.

Thus far the findings of this study show that male students from a given high school can be grouped according to first semester grade-point average and total score on the American Council Psychological Examination and that the progress of each such group can be described in terms of the persistence and achievement level of the members of each group. Each group progressed differently. Future groups may be expected to progress in a corresponding manner. The probable progress of an individual student may be assessed in terms of the progress of the group to which he belongs.

The next phase of this study concerns that portion of the 259 students who left the University prior to the beginning of the junior year. This represents 46% of the group of 259, or 119 students.

Table V shows the proportion of each group which left the University prior to the beginning of the junior year and the proportion of those who left who returned after a lapse of time of not more than two academic years. For example, only 10% of the students in Group I left before the junior year and only 25% of these returned within two years; whereas, 85% of Group IX left and 41% of those who left returned. Generally speaking, about half of the students in the total group left some time during the freshman and sophomore years and about half of these came back within two academic years of leaving. As shown earlier (Table I), few of the most promising students leave. As shown here, few of the most

TABLE V

Students Leaving The University Prior To The Beginning of The Junior Year

(1) Groups	(2) Number In Each Group During First Semester	(3) Per Cent Of Each Group (Column 2) Leaving Before Junior Year	(4) Per Cent Of Those Who Left (Column 3) Who Returned Within Two Years After Leaving
I	39	10	25
II	20	5	00
III	5	20	00
IV	36	33	50
V	52	42	59
Vi	26	46	42
VII	9	78	86
VIII	24	79	53
iX	48	85	41
Total	259	46	49

TABLE VI

Progress of Students Who Left Before The Junior Year And Who Returned After Two Years or Less of Leaving

N=58

Group	GPA Levels:	N*	Per Cent of Those Returning Achieving At Each of Three GPA Levels: First Semester After Return: 0.00 1.99	2.00 2.99	3.00 4.00	Second Consecutive Semester After Return: Absent	0.00 1.99	2.00 2.99	3.00 4.00
I		1	--	100	--	--	--	100	--
II		0	--	--	--	--	--	--	--
III		0	--	--	--	--	--	--	--
IV		6	33	50	17	50	17	16	17
V		13	8	77	15	8	0	77	15
VI		5	20	60	20	20	20	40	20
VII		6	50	33	17	50	17	16	17
VIII		10	60	40	0	70	0	20	10
IX		17	41	47	12	41	18	29	12
Total		53	34	53	13	38	10	38	14
Those Who Left Because They Were Dropped and Then Returned		34	47	41	12	47	12	29	12
Those Who Left But Who Were Not Dropped At The Time And Then Returned		24	17	71	12	25	8	50	17
Total		58	34	53	13	38	10	38	14

*N Number in Group Which Returned After Leaving in Freshman or Sophomore Year

promising students who do leave come back. Group VII again is of special interest. Whereas three-fourths of this high ability group left, most of them (86%) came back, but as will be shown later, only a third of them were progressing satisfactorily during the second semester of their return.

Table VI shows the progress of the students who left during the freshman or sophomore year and returned in two years or less. Of the 58 students who did this, about a third did poorly the first semester back and by the second semester about half of them (48%) were either gone or doing poorly. Of the 58 who left and returned, 59% had left because they were dropped and 41% had left for other reasons. In general, the dropped group was less successful on return than the non-dropped group. During the second consecutive semester back, 59% of the dropped group was either absent or doing poorly with only 12% earning a 3.00 GPA or above; the corresponding figures for the non-dropped group are 33% progressing unsatisfactorily and 17% earning a 3.00 GPA or above.

Tables V and VI show that very few students who leave before the junior year return within two years and do well. Of the 119 who left, only 25% had both returned and progressed satisfactorily during the second semester back. The characteristics of the few who were successful upon return remain to be identified.

The next phase of this study concerns the achievement patterns of those students who persisted through at least eight consecutive semesters at the University of Wisconsin.

Table VII shows the superiority of the 127 students who persisted through four years of college without interruption over the total entering group of 259.

TABLE VII

	Total Group	Those in the Total Group Who Persisted through Eight Consecutive Semesters
	N = 259	N = 127
Mean ACE Total Score	50.7	62.1
Mean High School Percentile Rank	55.5	69.1
Mean First Semester GPA	2.32	2.81

Table VIII shows the achievement levels of the students in each of the nine groups who persisted through eight consecutive semesters. As pointed out earlier, most of the most promising students (Groups I, II, and III) persist through eight semesters and very few of the least promising (Groups VII, VIII, and IX) do so. For example, 32 of the 39 in Group I persisted throughout whereas only 6 of the 48 in Group IX did so. The students in the most promising groups continued to do well. Group I achieved at about the same level throughout. Interestingly enough, Group I achieved at its highest level during the first semester of college, leveled off during the sophomore and junior years and dipped slightly in the senior year. Group V, for example, achieved at a fairly uniform level during the freshman and sophomore years and then at a uniformly higher level the junior and senior years. This improvement in the junior and senior years is generally apparent for all groups except the first three (I, II, III). This is not apparent for the first three groups, even though it may well be true, probably because these three are achieving near the top level. Considering all groups together, it is interesting to note that these students achieved at a higher level the first semester of college than the second semester.

TABLE VIII

Achievement Record of Students Completing
Eight Consecutive Semesters N=127

Group	N	Mean Grade Point Average In Each of Eight Consecutive Semesters								Mean of Mean GPA's
Eight Consecutive Semesters		1	2	3	4	5	6	7	8	
I	32	3.54	3.35	3.48	3.42	3.46	3.46	3.30	3.38	3.42
II	18	3.26	3.07	3.02	3.03	3.22	3.04	3.02	2.87	3.07
III	4	3.40	3.42	3.02	3.11	3.00	3.32	3.14	3.00	3.18
IV	24	2.50	2.30	2.62	2.60	2.84	2.85	2.97	2.90	2.70
V	28	2.50	2.48	2.59	2.50	2.70	2.68	2.64	2.75	2.61
VI	10	2.31	2.15	2.33	2.40	2.49	2.47	2.73	2.87	2.47
VII	2	1.51	2.54	2.73	2.13	2.72	2.51	2.18	2.57	2.30
VIII	3	1.70	2.15	2.33	2.15	2.25	2.59	2.67	2.54	2.30
IX	6	1.79	2.11	2.23	2.48	2.39	2.44	2.43	2.72	2.32
Total	127	2.81	2.73	2.85	2.82	2.96	2.95	2.94	2.96	2.88

Table IX shows achievement patterns as they are related to courses of study. Students in the BA course appear to be superior in all respects and achieved at the highest level throughout. Students in the General BS course achieved at about the same level as those in the pre-professional courses. It will be noted that in general students earned higher grades in the junior and senior years than in the freshman and sophomore years. Commerce students seemed to be an exception to this, achieving at about the same level the last two years as the first two.

The most commonly used indices of scholastic progress are high school rank, a test score indicative of scholastic ability, and a record of college achievement. The predictive indices discussed in this paper are based on the latter two, ability and college achievement. High school rank is omitted. Tables IX, X, and XI were prepared to illustrate differences in the predictive validity of these three indices.

Table X and XI show the progress of the 64 most promising students in the total group of 259, roughly the top one fourth. In Table X, first semester grade point average, (Row 1), is noticeably superior to scholastic ability, (Row 2), and perhaps slightly superior to high school rank (Row 3) as a predictive index. The differences among the three groups and between each group of 64 and the total group of 259 are most apparent in the fifth semester, the beginning of the junior year. 91% of the students in the group selected only on the basis of earning a B average or above the first semester began the junior year; 72% of the group selected on the basis of being in the top one fourth of ability did so; 88% of those in the top one fourth according to high school rank did so; whereas only 54% of the total group did so. There probably is

TABLE IX

Course of Study and Level of Achievement
For Students Completing Eight Consecutive Semesters

N = 120

	Course of Study	N	Mean ACE	Mean HSCR	Mean First Semester GPA	Mean GPA Freshman and Sophomore Years	Mean GPA Junior and Senior Years	Mean GPA Eight Semesters
General	BA	17	73	73	3.06	2.97	3.29	3.13
	BS	65	62	70	2.77	2.76	2.94	2.85
Pre-Professional	Commerce	31	58	65	2.83	2.80	2.86	2.83
	Education	7	55	72	2.82	2.85	3.02	2.93
	Total	120	62	69	2.82	2.81	2.97	2.89

TABLE X

Persistence of the Most Promising Students

Row	Criterion by Which Each Group Was Selected	N	Percent Continuing in Each of Seven Consecutive Semesters						
			Freshman and Sophomore Years			Junior and Senior Years			
Consecutive Semesters			2	3	4	5	6	7	8
(1)	First semester GPA 3.00 or above	64	100	95	95	91	91	88	84
(2)	Total percentile score on ACE 77 or above	64	97	83	81	72	72	70	67
(3)	High school percentile rank 77 or above	64	98	94	94	88	88	86	86
(4)	Total population from which above three groups were selected	259	89	69	64	54	51	50	49

no significant difference between high school rank and first semester grade-point average but these two measures of achievement are probably significantly different from the measure of ability.

Table XI compares the predictive validity of the same three single criteria shown in Table X, but in terms of achievement levels rather than persistence. Table XI shows that first semester grade-point average, Row (1), is superior to the other two (Rows 2 and 3). This is most apparent in the second consecutive semester, or the second semester of the freshman year. During that semester, 75% of the 64 selected only on the basis of having earned a B average the first semester, Row (1), earned a B average the second semester and only 2% earned less than a C average. For the group selected only on the basis of ability, Row (2), 44% earned a B average the second semester, and 14% earned less than a C. For the group selected only on the basis of high school rank, 61% made a B average and 6% made less than a C. Again, previous scholastic achievement is a more valid predictor than scholastic ability, and here first semester grade-point average seems to be more valid than high school rank even though differences are small.

Table XII shows both the persistence and achievement of the least promising students. Again, the group selected only on the basis of first semester grade-point average progressed, or failed to progress, more according to expectations than did the other groups, although the differences are not great. In the fifth consecutive semester, for example, 84% of the group selected according to first semester grade-point average (Row 1) either had left the University or were earning less than a C average. The comparable figure for the group selected on the basis of ability, Row (2), is 70%, and for the group selected according to high school rank, 75%.

TABLE XI

Achievement Levels of the Most Promising Students

Row	Criterion by Which Each Group Was Selected	N	Achievement Level	Percent Achieving at High and Low Levels During Seven Consecutive Semesters						
				Freshman & Sophomore Years				Junior and Senior Years		
	Consecutive Semesters			2	3	4	5	6	7	8
(1)	First semester GPA 3.00 or above	64	3.00-4.00	75	58	63	67	67	53	56
			0-1.99	2	3	2	2	2	6	4
(2)	Total percentile score on ACE 77 or above	64	3.00-4.00	44	41	47	48	52	48	44
			0-1.99	14	3	9	2	2	3	0
(3)	High school percentile rank 77 or above	64	3.00-4.00	61	55	61	58	59	55	55
			0-1.99	6	5	8	3	2	6	0
(4)	Total population from which above three groups were selected	259	3.00-4.00	22	21	21	24	25	23	23
			0-1.99	27	10	11	3	2	3	1

In view of the small numbers of students involved and, in many cases, the small differences between percentages, no test of significance was made. Tables X, XI, and XII suggest, however, that first semester grade-point average is the single criterion which is most valid in predicting scholastic progress. This is consistent with many other studies which have reported the superiority of previous scholastic achievement over scholastic ability. It will be noted, also, from these tables, that achievement level both in high school and in college are superior as a predictive index to a measure of ability. There is really little difference between high school rank and first semester grade-point average even though the difference is noticeable and fairly consistent. However, the high school from which the students under study entered is large and has a reputation for high academic standards and thus the high school rank used here may be more valid than high school ranks from many other high schools.

Although a measure of ability is less valid than a measure of achievement as shown in Tables X, XI, and XII, ability combined with achievement results in a more valid predictive indicator than either one by itself. Table XIII illustrates this. Row (1) shows a group of students selected on the basis of two criteria, ability and achievement, and Row (2) shows a group selected on the basis of achievement alone.

TABLE XII

Persistence and Achievement of
The Least Promising Students

Row	Criterion By Which Each Group Was Selected	N	Per Cent Progressing Unsatisfactorily In Each Of Seven Consecutive Semesters, i.e., Per Cent Either Earning Less Than a C or Having Left The University						
			Freshman and Sophomore Years			Junior and Senior Years			
Consecutive Semesters			2	3	4	5	6	7	8
(1)	First Semester GPA Less Than 2.00	81	74	77	83	84	86	89	86
(2)	Total Percentile Score On ACE Less Than 35	81	63	65	70	70	74	78	74
(3)	High School Percentile Rank Less Than 42	81	65	77	75	75	78	80	77
(4)	Total Population From Which Above Three Groups Were Selected	259	38	41	65	49	51	65	52

TABLE XIII

A Comparison of the Validity of a Single Criterion (achievement)
And a Combined Criterion (ability and achievement)
For Groups of the Most Promising Students

Criteria by Which Each Group Was Selected	N	Level of Achievement	Per Cent of Each Group at Two Achievement Levels in Each Of Seven Consecutive Semesters						
Consecutive Semesters			2	3	4	5	6	7	8
Group I-First Semester grade point average 3.00-4.00 and Total ACE 67-99	39	3.00-4.00	82	64	74	72	74	56	64
		0.00-1.99	0	3	3	3	0	5	0
Only First Semester grade point average 3.00-4.00	64	3.00-4.00	75	58	63	67	67	53	56
		0.00-1.99	2	3	2	2	2	6	4

The final phase of this study included some miscellaneous inquiries regarding the 127 students who continued through eight consecutive semesters.

Very few students carried either reduced or heavy programs. Only two of the 127 carried less than 12 credits in any one semester, and each of the two did so only once. Excluding the sixteen students who carried more than 17 credits in Medical School (and none of them carried more than 17 credits before entering Medical School), only fourteen of the 127 students carried more than 17 credits in any semester. Of these fourteen students, twelve of them carried more than 17 credits only once; one of them did so twice; and one of them three times.

Except for law and medicine, 27 students of the 127 took work under the Twenty Credit Rule. Of these 27, 19 of them took only Commerce courses under the rule; the other 8 took Art Education, Applied Music, and Biochemistry.

Only 6 of the 127 took advanced independent work, or "180 courses". These 6 students earned a total of fourteen credits in Agricultural Economics, Astronomy, Commerce, Economics, Sociology and Meteorology.

It is, finally, interesting to note that 29% of the 127 continuing students made less than a C average at one time or another during their eight semesters. As would be expected, the least promising students were the ones that experienced this the most. This is illustrated in Table XIV. All of the students in Groups VII, VIII, and IX had at least one unsatisfactory semester whereas very few in Groups I, II, and III had one.

TABLE XIV

Continuing Students Earning Less Than
C Average In One or More Semesters During
Eight Consecutive Semesters

(1) Group	(2) Original Number	(3) Number Continuing Eight Consecutive Semesters	(4) Per Cent of Column (3) Earning Less Than C Average In One or More Semesters
I	39	32	3
II	20	13	11
III	5	4	0
IV	36	24	29
V	52	28	29
VI	26	10	70
VII	9	2	100
VIII	24	3	100
IX	48	6	100
Total	259	127	29

TENTATIVE CONCLUSIONS

These conclusions are indeed tentative. They are stated here partly as a summary and interpretation of the data presented and partly as hypotheses for use in planning a similar study with large numbers of students from different high schools.

1. Scholastic progress patterns can be easily and understandably identified and used effectively in predicting scholastic progress. Students can be grouped according to first semester college achievement and a measure of scholastic ability. The progress of each group can then be described in terms of persistence and achievement. Each group will progress differently. The progress of groups entering the University in one year can be used as a basis for predicting the progress of corresponding groups in a later year.

2. The more able the student and the higher his grade point average his first semester of college, the more likely is he to persist through eight consecutive semesters without interruption, and vice versa.

3. Students who start out well are likely to continue doing well; students who start out poorly are likely to continue doing poorly or to leave early in their college career.

4. The high ability student who starts out poorly is likely to continue doing poorly or leave; the low ability student who starts out well is likely to continue doing well and to persist through four years of college without interruption.

5. Once a student who has not interrupted his college work enters the junior year, he is likely to continue through the senior year regardless of his ability or previous scholastic achievement.

6. Very few students who leave before the junior year return and do well. About half of the students who enter college leave before the junior year. About half of these return for another try but only half of these returnees are successful.

7. Calendar time has little effect on progress patterns. There is little variation in patterns from year to year.

8. Students who persist through four years of college are superior to those who interrupt their college career. This superiority is in terms of ability, first semester grade-point average, and high school rank.

9. Students may be expected to achieve at essentially the same level throughout eight consecutive semesters. In the freshman year, first semester grades are usually better than second semester grades; junior and senior year grades are usually slightly higher than those in the first two years.

10. Students in the general BA course are superior in scholastic ability and achievement to those in other courses of study.

11. First semester grade point average is a more valid predictive index of scholastic progress than a measure of scholastic ability or high school rank.

12. Very few students take light or heavy programs, advanced independent work, or work under the Twenty Credit Rule.

The writer plans to undertake a similar study using large numbers of students with the hope of developing predictive indices which would be more valid and more understandable than the ones presently available.